

Use Attainability Analysis

for

WBID 1386 South Dry Sac River

Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

Date Received: June 4, 2007

Field Data Sheets for Recreation Use Stream Surveys
Data Sheet A - Water Body Identification
(For water body being surveyed)

Water Body Information

Water Body Name:	South Dry Sac River	WBID:	1386
8 digit HUC code:	10290106	County:	Greene
Upstream Legal Description	29N 22W 3		
Downstream Legal Description	30N 22W 35		
Number of Sites Evaluated	3		
List all site numbers, listed upstream to downstream	3,2,1		

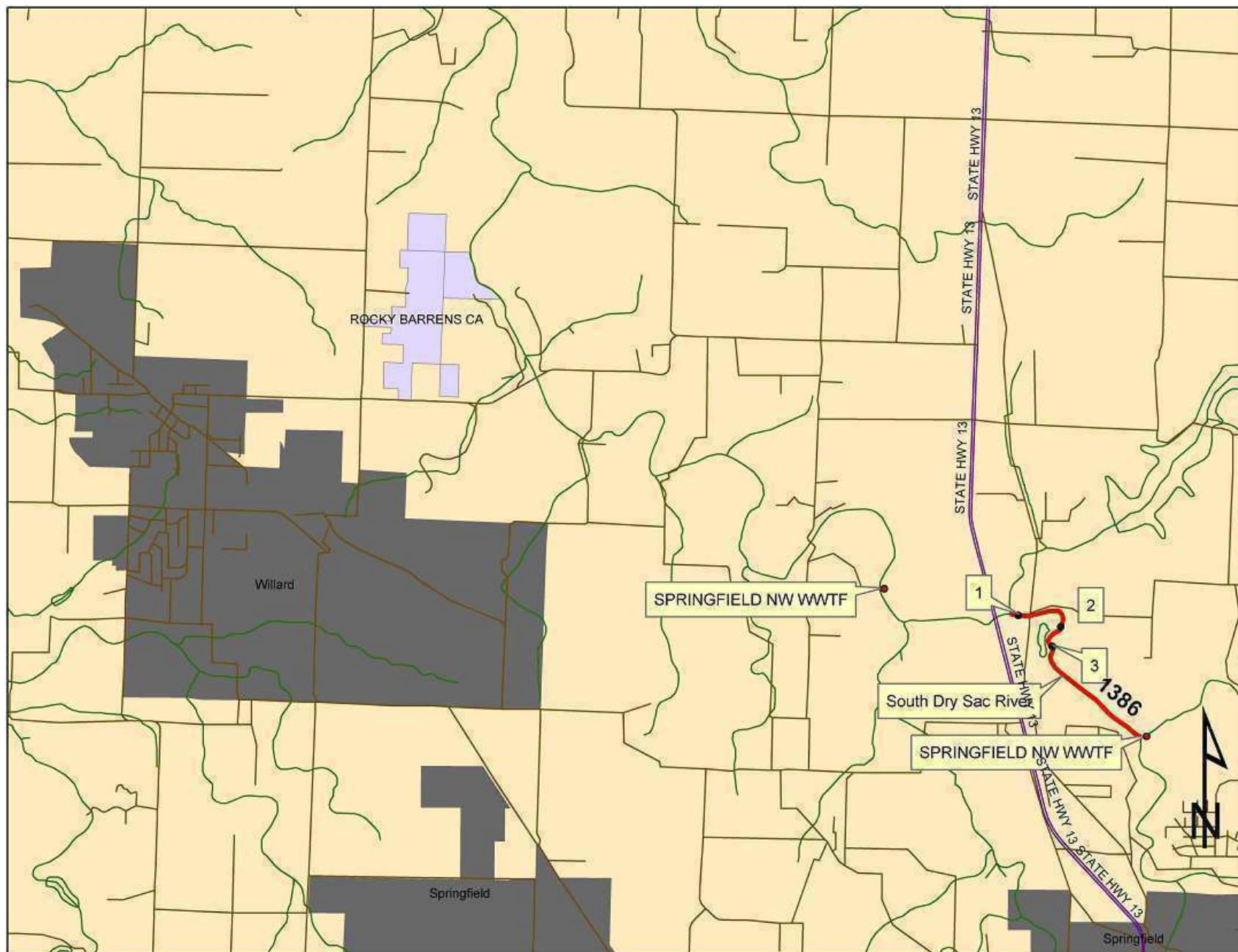
Discharger Facility Information

Discharger Facility Name(s):	Springfield NW WWTF
Discharger Permit Number(s):	MO0103039

UAA Surveyor

Name of Surveyor:	Nolan Pringle	Telephone Number:	(903)307-0046
Organization/Employer:	SES, Inc.		
Position:	Field Team Leader		

Signed: _____ Date: _____



Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 1386
 Site # 1

Date and Time: 5/15/2007 14:20

Current Weather Conditions overcast, rainy

Weather Conditions for Past 10 days: Rained about 1.15 inches in the area

Drought Conditions? No

Site Location (e.g. road crossing) Bridge crossing at 141

GPS Mark: 5

Upstream Photo 9 Downstream Photo 8

Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	None of the Above

WBID # 1386 **Site #** 1
Mark # 5 **Dissolved Oxygen (ppm)** 8.6
Upstream Views Physical Dimensions: Is there any water present at this view? yes

If so, is there an obvious current? yes

Select one of the following channel features:

	% of Channel Feature				
Riffle	10				
Run	10				
Pool	80				

Downstream View's Physical Dimensions: Is there any water present at this view? yes

If so, is there an obvious current? yes

Substrate:

% Cobble	% Gravel	% Sand	% Silt
40	55	0	5
% Mud/Clay	% Bedrock		
0	0		

Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 1

Mark # 5

	Depth (m)
Transect 1	0.25
Substrate:	0.30
cobble/gravel	0.30
Water Clarity:	0.25
clear	0.15
Channel Feature:	0.10
pool	0.15
Channel Width:	0.15
16 yards	0.15
0.18	0.20
Transect 2	0.30
Substrate:	0.20
cobble, silt, gravel	0.35
Water Clarity:	0.50
clear	0.70
Channel Feature:	0.60
run	0.20
Channel Width:	0.00
16 yards	0.00
0.25	0.05
Transect 3	0.10
Substrate:	0.25
cobble/gravel	0.30
Water Clarity:	0.35
clear	0.40
Channel Feature:	0.40
riffle	0.35
Channel Width:	0.40
8 yards	0.40
0.35	0.35
Transect 4	0.20
Substrate:	0.20
cobble/gravel	0.25
Water Clarity:	0.25
clear	0.25
Channel Feature:	0.25
pool	0.25
Channel Width:	0.25
7 yards	0.25
0.25	0.25

	Depth (m)
Transect 5	0.15
Substrate:	0.25
cobble/gravel	0.30
Water Clarity:	0.40
clear	0.55
Channel Feature:	0.60
pool	0.75
Channel Width:	0.65
7 yards	0.55
0.50	0.45
Transect 6	0.20
Substrate:	0.35
cobble/gravel	0.40
Water Clarity:	0.30
clear	0.30
Channel Feature:	0.35
	0.35
Channel Width:	0.35
7 yards	0.25
0.33	0.20
Transect 7	0.35
Substrate:	0.55
gravel/cobble	0.65
Water Clarity:	0.80
clear	0.75
Channel Feature:	0.65
pool	0.65
Channel Width:	0.80
12 yards	1.00
0.70	1.00
Transect 8	0.45
Substrate:	0.70
gravel/cobble	0.70
Water Clarity:	0.65
clear	0.55
Channel Feature:	0.45
pool	0.50
Channel Width:	0.55
11 yards	0.70
0.60	0.75

	Depth (m)
Transect 9	0.35
Substrate:	0.50
gravel	0.60
Water Clarity:	0.50
clear	0.55
Channel Feature:	0.60
pool	0.60
Channel Width:	0.60
13 yards	0.30
0.53	0.15
Transect 10	0.05
Substrate:	0.10
gravel	0.25
Water Clarity:	0.45
clear	0.35
Channel Feature:	0.35
pool	0.40
Channel Width:	0.40
13 yards	0.35
0.35	0.10
Transect 11	0.20
Substrate:	0.45
gravel	0.55
Water Clarity:	0.70
clear/murky	0.60
Channel Feature:	0.45
pool	0.40
Channel Width:	0.45
12 yards	0.35
0.45	0.25
Site Median	Site Maximum
0.35	1.00

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 1386
 Site # 2

Date and Time: 5/15/2007 15:35

Current Weather Conditions overcast, rainy

Weather Conditions for Past 10 days: Rained about 1.15 inches in the area

Drought Conditions? No

Site Location (e.g. road crossing) 400 yards upstream from road crossing

GPS Mark: 6

Upstream Photo 11 Downstream Photo 10

Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	None of the Above

WBID # 1386 **Site #** 2
Mark # 6 **Dissolved Oxygen (ppm)** 8.4
Upstream Views Physical Dimensions: Is there any water present at this view? yes

If so, is there an obvious current? yes

Select one of the following channel features:

	% of Channel Feature				
Riffle	27				
Run	0				
Pool	73				

Downstream View's Physical Dimensions: Is there any water present at this view? yes

If so, is there an obvious current? yes

Substrate:

% Cobble	% Gravel	% Sand	% Silt
52	38	0	0
% Mud/Clay	% Bedrock		
0	10		

Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

Algae on rocks. No floating algae. Vegetation along bank.

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 2

Mark # 6

	Depth (m)		Depth (m)		Depth (m)
Transect 1	0.10	Transect 5	0.30	Transect 9	0.10
Substrate:	0.15	Substrate:	0.35	Substrate:	0.25
cobble	0.20	gravel/cobble	0.20	bedrock, gravel, cobble	0.30
Water Clarity:	0.15	Water Clarity:	0.00	Water Clarity:	0.25
clear	0.20	clear	0.30	clear	0.35
Channel Feature:	0.15	Channel Feature:	0.70	Channel Feature:	0.40
riffle	0.20	pool	0.80	pool	0.40
Channel Width:	0.20	Channel Width:	0.80	Channel Width:	0.45
13 yards	0.30	14 yards	0.70	12 yards	0.55
0.20	0.20	0.35	0.35	0.35	0.35
Transect 2	0.15	Transect 6	0.05	Transect 10	0.05
Substrate:	0.35	Substrate:	0.10	Substrate:	0.10
cobble	0.70	cobble/gravel	0.35	cobble	0.25
Water Clarity:	1.00	Water Clarity:	0.40	Water Clarity:	0.25
clear	1.00	clear	0.40	clear	0.20
Channel Feature:	1.00	Channel Feature:	0.35	Channel Feature:	0.25
pool	1.00	pool	0.25	riffle	0.25
Channel Width:	1.00	Channel Width:	0.30	Channel Width:	0.20
13 yards	0.50	10 yards	0.25	9 yards	0.20
0.85	0.30	0.28	0.20	0.20	0.15
Transect 3	0.05	Transect 7	0.10	Transect 11	0.15
Substrate:	0.25	Substrate:	0.05	Substrate:	0.30
gravel/cobble	0.95	gravel/cobble	0.15	gravel, cobble	0.45
Water Clarity:	1.00	Water Clarity:	0.20	Water Clarity:	0.55
clear	1.00	clear	0.35	clear	0.55
Channel Feature:	1.00	Channel Feature:	0.35	Channel Feature:	0.55
pool	1.00	pool	0.40	pool	0.40
Channel Width:	1.00	Channel Width:	0.40	Channel Width:	0.60
14 yards	0.60	12 yards	0.40	14 yards	0.60
0.98	0.40	0.33	0.30	0.50	0.35
Transect 4	0.20	Transect 8	0.10		
Substrate:	0.20	Substrate:	0.30	Site Median	Site Maximum
cobble/gravel	0.15	bedrock, gravel, cobble	0.40	0.30	1.00
Water Clarity:	0.25	Water Clarity:	0.50		
clear	0.25	clear	0.45		
Channel Feature:	0.30	Channel Feature:	0.40		
riffle	0.30	pool	0.35		
Channel Width:	0.20	Channel Width:	0.30		
14 yards	0.00	10 yards	0.20		
0.20	0.00	0.33	0.15		

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 1386
 Site # 3

Date and Time: 5/15/2007 16:35

Current Weather Conditions overcast, rainy

Weather Conditions for Past 10 days: Rained about 1.15 inches in the area

Drought Conditions? No

Site Location (e.g. road crossing) 600 yards upstream from road crossing

GPS Mark: 7

Upstream Photo 12 Downstream Photo 13

Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	None of the Above

WBID # 1386 **Site #** 3
Mark # 7 **Dissolved Oxygen (ppm)** 8.7
Upstream Views Physical Dimensions: Is there any water present at this view? yes

If so, is there an obvious current?

Select one of the following channel features:

	% of Channel Feature				
Riffle	0				
Run	0				
Pool	100				

Downstream View's Physical Dimensions: Is there any water present at this view? yes

If so, is there an obvious current?

Substrate:

% Cobble	% Gravel	% Sand	% Silt
17	58	0	0
% Mud/Clay	% Bedrock		
0	25		

Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

Algae on rocks. Vegetation along banks.

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 3

Mark # 7

	Depth (m)
Transect 1	0.05
Substrate:	0.05
gravel	0.15
Water Clarity:	0.15
clear	0.25
Channel Feature:	0.35
pool	0.45
Channel Width:	0.30
12 yards	0.30
0.25	0.25
Transect 2	0.10
Substrate:	0.15
bedrock	0.15
Water Clarity:	0.25
clear	0.30
Channel Feature:	0.25
pool	0.20
Channel Width:	0.20
11 yards	0.15
0.20	0.20
Transect 3	0.15
Substrate:	0.20
gravel	0.40
Water Clarity:	0.40
clear	0.35
Channel Feature:	0.40
pool	0.30
Channel Width:	0.30
12 yards	0.20
0.33	0.35
Transect 4	0.30
Substrate:	0.40
gravel	0.50
Water Clarity:	0.35
clear	0.10
Channel Feature:	0.30
pool	0.30
Channel Width:	0.30
13 yards	0.25
0.30	0.20

	Depth (m)
Transect 5	0.40
Substrate:	0.55
gravel	0.60
Water Clarity:	0.45
clear	0.40
Channel Feature:	0.40
pool	0.40
Channel Width:	0.35
10 yards	0.30
0.40	0.30
Transect 6	0.50
Substrate:	0.60
gravel	0.70
Water Clarity:	0.70
clear	0.60
Channel Feature:	0.45
pool	0.40
Channel Width:	0.35
9 yards	0.15
0.48	0.10
Transect 7	0.20
Substrate:	0.20
gravel	0.40
Water Clarity:	0.45
clear	0.50
Channel Feature:	0.45
pool	0.35
Channel Width:	0.30
10 yards	0.30
0.33	0.10
Transect 8	0.40
Substrate:	0.40
gravel	0.50
Water Clarity:	0.45
clear	0.35
Channel Feature:	0.35
pool	0.40
Channel Width:	0.40
10 yards	0.30
0.40	0.35

	Depth (m)
Transect 9	0.30
Substrate:	0.20
cobble	0.30
Water Clarity:	0.30
clear	0.30
Channel Feature:	0.25
pool	0.25
Channel Width:	0.15
11 yards	0.15
0.25	0.15
Transect 10	0.30
Substrate:	0.35
cobble/bedrock	0.45
Water Clarity:	0.60
clear	0.55
Channel Feature:	0.40
pool	0.50
Channel Width:	0.50
12 yards	0.25
0.43	0.25
Transect 11	0.20
Substrate:	0.50
bedrock	0.60
Water Clarity:	0.65
clear	0.70
Channel Feature:	0.65
pool	0.65
Channel Width:	0.70
6 yards	0.70
0.65	0.50
Site Median	Site Maximum
0.35	0.70

WBID# 1386



Site# 1 Photo ID# 9, Upstream



Site# 1 Photo ID# 8, Downstream



Site# 2 Photo ID# 11, Upstream



Site# 2 Photo ID# 10, Downstream

WBID# 1386



Site# 3 Photo ID# 12, Upstream



Site# 3 Photo ID# 13, Downstream